IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Previously Presented): A system for monitoring component consumption, comprising:

a radiation source configured to emit a radiation beam onto a first area of a consumable component subject to erosion by a manufacturing process, the component having an initial thickness such that the component can withstand a plurality of process runs before the erosion requires replacement of the component;

a detecting unit configured to detect a portion of the radiation beam that is refracted by the component, and to generate a radiation level signal based at least on a strength of the detected portion of the radiation beam; and

a control unit configured to determine a replacement status of the component based on said radiation level signal.

Claim 2 (Original): The system of Claim 1, wherein said control unit is configured to determine the status of the component by:

determining a thickness of the component based on the radiation level signal; and

comparing the thickness of the component to a predetermined thickness value.

Claim 3 (Original): The system of Claim 2, wherein said control unit is further configured to:

generate a status signal when the thickness of the component is determined to be substantially equal to or below the predetermined thickness value; and

transmit a command to the radiation source and the detecting unit to generate another radiation level signal when the thickness of the component is determined to be greater than

the predetermined thickness value and after the component is exposed to a process that can erode at least a portion of the component.

Claim 4 (Original): The system of Claim 1, wherein the detected portion of the radiation beam is a portion of the radiation beam that is refracted a first time by a first surface of the component, transmitted through the component, reflected by a second surface of the component, and refracted a second time by the first surface of the component.

Claim 5 (Original): The system of Claim 1, wherein the radiation beam is an infrared beam.

Claim 6 (Original): The system of Claim 1, wherein the radiation source and the detecting unit are positioned within a processing chamber, and the control unit is positioned outside of the processing chamber.

Claim 7 (Original): The system of Claim 1, wherein the detecting unit is configured to wirelessly transmit the radiation level signal to the control unit.

Claim 8 (Original): The system of Claim 3, wherein the control unit includes a storage area configured to store correlation data that is used to determine the thickness of the component based on the radiation level signal.

Claim 9 (Original): The system of Claim 8, wherein the correlation data includes information correlating radiation levels to thicknesses for a plurality of component materials.

Claim 10 (Original): The system of Claim 1, wherein the component comprises a semiconductor material.

Claim 11 (Original): The system of Claim 1, wherein at least one of the radiation source and the detecting unit is configured to receive power from radiofrequency power in a plasma tool.

Claim 12 (Original): The system of Claim 2, further comprising:

a second radiation source configured to emit a second radiation beam onto a second area of the component; and

a second detecting unit configured to detect a portion of the second radiation beam that is refracted by the component, and to generate a second radiation level signal based at least on a strength of the detected portion of the second radiation beam, wherein the control unit is configured to determine the thickness of the component based on at least one of the radiation level signal and the second radiation level signal.

Claim 13 (Original): The system of Claim 12, wherein:

the first area of the component includes a first recessed portion,

the second area of the component includes a second recessed portion, and

the control unit is configured to identify at least one of a material, a manufacturer, a serial number, and a type of the component based at least on determined initial thicknesses of the first recessed portion and the second recessed portion.

Claim 14 (Previously Presented): A system for monitoring component consumption, comprising:

means for emitting a radiation beam onto a first area of a consumable component subject to erosion by a manufacturing process, the component having an initial thickness such that the component can withstand a plurality of process runs before the erosion requires replacement of the component;

means for detecting a portion of the radiation beam that is refracted by the component, and for generating a radiation level signal based at least on a strength of the detected portion of the radiation beam; and

means for determining a replacement status of the component based on said radiation level signal.

Claim 15 (Original): The system of Claim 14, wherein said means for determining further comprises:

means for determining a thickness of the component based on the radiation level signal; and

means for comparing the thickness of the component to a predetermined thickness value.

Claim 16 (Original): The system of Claim 15, wherein said means for determining further comprises:

means for generating a status signal when the thickness of the component is substantially equal to or below the predetermined thickness value, and

means for transmitting a command to the emitting means and the detecting means to generate another radiation level signal when the thickness of the component is determined to be greater than the predetermined thickness value and after the component is exposed to a process that can erode at least a portion of the component.

Claim 17 (Original): The system of Claim 14, wherein the detected portion of the radiation beam is a portion of the radiation beam that is refracted a first time by a first surface of the component, transmitted through the component, reflected by a second surface of the component, and refracted a second time by the first surface of the component.

Claim 18 (Original): The system of Claim 14, wherein the radiation beam is an infrared beam.

Claim 19 (Original): The system of Claim 14, wherein the detecting means includes means for wirelessly transmitting the radiation level signal to the controlling means.

Claim 20 (Original): The system of Claim 14, wherein the component is made of a semiconductor material.

Claim 21 (Original): The system of Claim 14, wherein at least one of emitting means and the detecting means is powered by radiofrequency power in a plasma tool.

Claim 22 (Original): The system of Claim 15, further comprising:

second emitting means for emitting a second radiation beam onto a second area of the component; and

second detecting means for detecting a portion of the second radiation beam that is refracted by the component, and for generating a second radiation level signal based at least on a strength of the detected portion of the second radiation beam, wherein the controlling means includes means for determining the thickness of the component based on at least one of the radiation level signal and the second radiation level signal.

Claim 23 (Original): The system of Claim 22, wherein:

the first area of the component includes a first recessed portion,

the second area of the component includes a second recessed portion, and

the controlling means includes means for identifying at least one of a material, a manufacturer, a serial number, and a type of the component based at least on determined initial thicknesses of the first recessed portion and the second recessed portion.

Claim 24 (Previously Presented): A method for monitoring consumption of a component, comprising:

emitting a radiation beam onto a first area of a consumable component subject to erosion by a manufacturing process, the component having an initial thickness such that the component can withstand a plurality of process runs before the erosion requires replacement of the component;

detecting a portion of the radiation beam that is refracted by the component;

generating a radiation level signal based at least on a strength of the detected portion of the radiation beam; and

determining a replacement status of the component based on said radiation level signal.

Claim 25 (Original): The method of Claim 24, wherein said determining comprises:

determining a thickness of the component based on said strength of said radiation level signal; and

comparing the thickness of the component to a predetermined thickness value.

Claim 26 (Original): The method of Claim 25, wherein said determining further comprises:

exposing the component to a process that can erode at least a portion of the component when the comparing step determines that the thickness of the component is greater than the predetermined thickness value;

repeating the measuring step, the comparing step, and the exposing step until the comparing step determines that the thickness of the component is substantially equal to or less than the predetermined thickness value; and

generating a status signal when the comparing step determines that the first thickness of the component is substantially equal to or less than the predetermined thickness value.

Claim 27 (Original): The method of Claim 24, wherein the generating step comprises:

generating the radiation level signal as a wireless signal.

Claim 28 (Original): The method of Claim 25, further comprising:

measuring an initial thickness of the component; and

identifying at least one of a material, a manufacturer, a serial number, and a type of the component based at least on the initial thickness of the component.

Claim 29 (Original): The method of Claim 25, further comprising:

determining a rate of erosion of the component corresponding to the process based on at least two thickness measurements of the component.

Claim 30 (Original): The method of Claim 29, further comprising:

calculating a remaining life of the component based on the rate of erosion.

Claim 31 (Original): The method of Claim 29, wherein the exposing step includes:

exposing the component to a second process that can erode at least a portion of the component, wherein the first and second processes are different,

the method further comprising:

determining a second rate of erosion of the component corresponding to the second process based on at least two thickness measurements of the component.

Claim 32 (Original): The method of Claim 26, wherein the exposing step includes:

exposing the component to plasma processing.

Claim 33 (Original): The method of Claim 24, wherein the detected portion of the radiation beam is a portion of the radiation beam that is refracted a first time by a first surface of the component, transmitted through the component, reflected by a second surface of the component, and refracted a second time by the first surface of the component.

Claim 34 (Original): The method of Claim 24, wherein the radiation beam is an infrared beam.

Claim 35 (Original): The method of Claim 25, wherein the determining step includes:

referring to stored correlation data to determine the thickness of the component based on the radiation level signal.

Claim 36 (Original): The method of Claim 35, wherein the correlation data includes information correlating radiation levels to thicknesses for a plurality of component materials.

Claim 37 (Original): The method of Claim 24, wherein the component is made of a semiconductor material.

Claim 38 (Original): The method of Claim 25, further comprising:

emitting a second radiation beam onto a second area of the component; and

detecting a portion of the second radiation beam that is refracted by the component; and

generating a second radiation level signal based at least on a strength of the detected portion of the second radiation beam, wherein the determining step includes determining the thickness of the component based on at least one of the radiation level signal and the second radiation level signal.

Claim 39 (Original): The method of Claim 28, wherein the step of determining an initial thickness of the component includes determining a thickness of a recessed portion of the component.

Claim 40 (Previously Presented): A system for monitoring component consumption, comprising:

a radiation source configured to emit a radiation beam onto a first area of a component, the first area of the component including a first recessed portion;

a first detecting unit configured to detect a portion of the radiation beam that is refracted by the component, and to generate a first radiation level signal based at least on a strength of the detected portion of the radiation beam;

a second radiation source configured to emit a second radiation beam onto a second area of the component, the second area of the component including a second recessed portion;

a second detecting unit configured to detect a portion of the second radiation beam that is refracted by the component, and to generate a second radiation level signal based at least on a strength of the detected portion of the second radiation beam; and

a control unit configured to determine the initial thickness of the first recessed portion based on the first radiation level signal, determine the initial thickness of the second recessed portion based on the second radiation level signal, and identify at least one of a material, a manufacturer, a serial number, and a type of the component based at least on determined initial thicknesses of the first recessed portion and the second recessed portion.

Claim 41 (Currently Amended): A method for monitoring consumption of a component, comprising:

emitting a radiation beam onto a first area of a component;

detecting a portion of the radiation beam that is refracted by the component;

generating a radiation level signal based at least on a strength of the detected portion of the radiation beam;

determining an initial thickness of the component based on said radiation level signal; and

identifying at least one of ~~a material,~~ a manufacturer, a serial number, and a part type of the component based at least on the initial thickness of the component.